

ABSTRACT OF THE DISCLOSURE

5 A multi-agent autonomous system for exploration of
hazardous or inaccessible locations. The multi-agent
autonomous system includes simple surface-based agents or
craft controlled by an airborne tracking and command system.
The airborne tracking and command system includes an
10 instrument suite used to image an operational area and any
craft deployed within the operational area. The image data is
used to identify the craft, targets for exploration, and
obstacles in the operational area. The tracking and command
system determines paths for the surface-based craft using the
15 identified targets and obstacles and commands the craft using
simple movement commands to move through the operational area
to the targets while avoiding the obstacles. Each craft
includes its own instrument suite to collect information about
the operational area that is transmitted back to the tracking
20 and command system. The tracking and command system may be
further coupled to a satellite system to provide additional
image information about the operational area and provide
operational and location commands to the tracking and command
system.

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